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STAFF REPORT: APPEAL SUBSTANTIAL ISSUE AND DE NOVO HEARING

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Appeal Number A-3-PSB-01-097

Applicant Antone and Katherine Zaninovich

Appellants Commissioners Wan and Nava

Local Government City of Pismo Beach

Local Decision On September 11, 2001, the Planning Commission approved with conditions the demolition of an existing single-family dwelling and the construction of a new single family dwelling on the same lot.

Project Location..... 307 Indio Drive, Pismo Beach, San Luis Obispo County (APN: 010-192-008). See Exhibit 1.

Project Description Demolition of an existing single family residence and subsequent construction of a new 5,128 square foot residence.

File Documents..... City of Pismo Beach Permit Numbers 98-120 and 01-0147; Commission Appeal A-3-PSB-99-026; City of Pismo Beach certified Local Coastal Program

Staff Recommendation **Approval with Conditions**

Staff Summary

The Commission received a Final Local Action Notice on September 17, 2001 from the City of Pismo Beach approving the demolition of an existing single-family residence and the construction of a new single-family residence in the Sunset Palisades planning area of the City. Based on a Geologic Bluff Study prepared by Earth Systems Pacific, which estimated a bluff retreat rate of 2.5 inches per year at the site, the proposed development will be set back at the LCP minimum 25 feet. The Earth Systems report did not evaluate recent observed bluff retreat from 1990 to the preset, which included the 1997-98 El Nino winter of high sea and above normal rainfall. As a consequence, the estimated annual rate of bluff retreat is underestimated.

Further definition of the bluff line performed by Earth Systems and reviewed by staff geologist, Mark Johnsson, including the most recent time periods (1990 to the present) provides evidence for establishing a rate of retreat on the order of 4 inches per year.

This is not the first time the Commission has appealed and found substantial issue with proposed development for this site. On July 14, 1999, the Commission found substantial issue on appeal and approved with conditions a coastal development permit for the demolition of an existing 2,982 square foot single family residence and construction of a new 5,169 square foot single family residence, set back a minimum of 33' from the bluff edge to account for the estimated erosion over a 100 year period. Conditions of the permit also required the applicant to submit a site-specific geological report to establish a setback buffer ensuring that the development approved by the permit would not require any shoreline protection for a period of 100 years as required by the City's LCP. The permit also required the applicant to record a deed restriction agreeing to an assumption of risk and prohibiting the construction of any shoreline protection at the site. Development did not commence construction of the project within the allotted two years from the approval of the permit and no application for extension was received prior to the expiration date.

The project is located on an ocean fronting lot near the northern end of the City of Pismo Beach. The existing house is approximately eight to ten feet from the edge of the bluff. As approved by the Planning Commission, the proposed new house would be located 25 feet from the bluff edge (approximately 21 feet from the landward margin of an undercut portion of the bluff). The City's LCP requires that new houses be set back "a safe distance from the top of the bluff in order to retain the structures for a minimum of 100 years." Based on the original geologic report's estimated erosion rate of four inches per year, and the 100-year requirement, the house should be setback a minimum of 33 feet. In contrast, the Planning Commission's decision was apparently based on the Earth Systems Pacific report wherein the geologist recommended changing the average erosion rate from four inches per year to two and one-half inches per year. Based on an assumed 100 year lifespan for the structure, an erosion rate of 2.5 inches per year would equal a setback of 20.8 feet. However, the supplemental Earth Systems analysis does not adequately support a reduction in the erosion rate as originally established. Based on a review of the supplied geologic information and the conditions on site, staff geologist, Mark Johnsson, concluded that the four inches per year erosion rate is an appropriate conservative value. To address the shoreline hazard policy requirements of the LCP, particularly the requirement that new development not be allowed if it would require future shoreline protection, the development setback should be based on at least a four inch per year erosion rate. Moreover, simply setting the new structure back to the projected 100 year erosion line does not necessarily guarantee structural stability for 100 years. **Staff recommends, therefore, that the Commission find that substantial Issue exists, and the coastal development permit be approved with conditions that (1) require the house to be set back a minimum of 40 feet from the bluff edge (33 feet erosion setback and 7 foot buffer) to account for the estimated erosion over a 100 year period and ensure that the residential development approved under this permit will not need any shoreline protection for a 100-year lifespan, as required by the LCP; and (2) that future shoreline protection for the project be prohibited.**

Staff Report Contents

I. SUMMARY OF APPELLANT'S CONTENTIONS	3
II. LOCAL GOVERNMENT ACTION	4
III. STANDARD OF REVIEW FOR APPEALS	5
IV. STAFF RECOMMENDATION ON SUBSTANTIAL ISSUE AND COASTAL DEVELOPMENT PERMIT	5
A. STAFF RECOMMENDATION ON SUBSTANTIAL ISSUE:	6
B. STAFF RECOMMENDATION ON COASTAL DEVELOPMENT PERMIT:	6
V. RECOMMENDED CONDITIONS	7
A. STANDARD CONDITIONS	7
B. SPECIAL CONDITIONS	7
VI. FINDINGS AND DECLARATIONS	9
A. LCP BACKGROUND	9
B. SUBSTANTIAL ISSUE FINDINGS	9
C. FINDINGS FOR DE NOVO HEARING AND APPROVAL OF A REVISED PROJECT	14
1. GEOLOGY AND SETBACK FROM BLUFF	14
2. ACCESS	18
VII. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)	18
VIII. EXHIBITS	
1. Location Map	
2. Commission Appeal October 1, 2001	
3. Commission Appeal and Staff Report (July 1999)	
4. Geologic Bluff Study (November 1997)	
5. Geology Addendum letter (September 1998)	
6. Earth Systems Bluff Study (March 2001)	
7. Response to Commission Appeal (October 2001)	
8. Earth Systems Revised Bluff Study (December 2001)	
9. Site Plans	

I. SUMMARY OF APPELLANT'S CONTENTIONS

Appellants Wan and Nava contend that the City's approval is inconsistent with the certified LCP for the following reasons (refer to Exhibit 2 for the full text):

Land Use Plan Safety Element Policy S-3 and Section 17.078.050(1) of the Zoning Ordinance together require 1) that structures be set back a safe distance from the blufftop in order to retain the structures for a minimum of 100 years and 2) a minimum setback of 25 feet from the blufftop with the possibility of a greater setback based on a geologic investigation. Based on a bluff retreat rate of 2.5 inches per year, the City-approval recommended the minimum bluff set back of 25 feet. In its findings, the City determined this amount would also satisfy the safe-for-100-years prerequisite.

Section 17.078.060(5) of the certified Zoning Ordinance does not permit new development where it is determined that shoreline protection will be necessary for protection of the new structures now or in the future based on a 100 year geologic projection. Given evidence suggesting that bluff retreat had accelerated to nearly 4 inches per year, the current location of the City-approved bluff setback would only suffice for a period of 75 years, meaning that shoreline protection would be necessary 25 years sooner than if the structure's location was based on the more conservative bluff retreat estimate.

The applicant's representative calculated the erosion rate based on an analysis of aerial photographs between 1955 and 1990. Section 17.078.050(3) of the certified Zoning Ordinance requires that historic, current, and foreseeable cliff erosion, including using available source material, be included in the analysis in geologic studies. At a minimum the erosion rate calculation should have extended to the present (i.e., from 1990 to 2000). Additionally, the City should have heeded the Commission's previous recommendation that there should be some room for error so that in 100 years the house would not be overhanging the bluff. Finally, since the City chose to use a different erosion rate, it should have included an analysis and findings as to why the different rate was used, especially given the Commission's previous findings.

II. LOCAL GOVERNMENT ACTION

Two coastal development permits for this site have been issued recently. On February 9, 1999, the City of Pismo Beach Planning Commission granted a coastal development permit for the demolition of a 2,982 square foot single family residence and the construction of a new 5,169 square foot single family residence on a bluff top lot in the northern portion of the City. A geologic investigation was performed that concluded that the average annual erosion rate at the site is 4 inches per year. The investigation recommended a setback of 25 feet from the bluff top and 25 feet from the landward end of the four foot depth of the undercut part of the bluff, sufficient to protect the structure for a period of 75 years ($4 \text{ inches} \times 75 \text{ yrs} = 300 \text{ inches}$; $300 \div 12 \text{ inches} = 25 \text{ feet}$).

A subsequent addendum letter from the geologist recommended changing the erosion rate from four inches to three inches per year. Based on that addendum letter, the Planning Commission accepted the reduced erosion rate and established a setback based on three inches per year rather than four inches per year and required that the house be set back 25 feet from the most landward portion of the bluff. The Coastal Commission appealed that action and a coastal development permit was ultimately issued requiring the bluff setback be established at 33 feet from the bluff edge. See Exhibit 3.

On September 11, 2001, the City of Pismo Beach Planning Commission granted a second coastal development permit for the same project on the same bluff top lot –the subject of this appeal. In 1992, a Geologic Bluff Study was performed by Earth Systems Pacific concluding that the average annual erosion rate at the site is 3 - 4 inches per year. Additional analysis of the harder bedrock formations suggested that bluff retreat of this material was on the order of 1 – 2

inches per year. Based on these ranges of retreat, Earth Systems Pacific recommended that a bluff retreat rate of 2.5 inches per year be used for the site. The investigation recommended a *minimum* setback of 25 feet from the bluff top, which includes a 4-foot buffer sufficient to protect the structure for a period of 100 years (2.5 inches x 100yrs = 250 inches; $250 \div 12 \text{ inches} = 21 \text{ feet}$; $21 + 4 = 25 \text{ feet}$).

III. STANDARD OF REVIEW FOR APPEALS

Coastal Act section 30603 provides for the appeal of approved coastal development permits in jurisdictions with certified local coastal programs for development that is (1) between the sea and the first public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tideline of the sea where there is no beach, whichever is the greater distance; (2) on tidelands, submerged lands, public trust lands, within 100 feet of any wetland, estuary, or stream, or within 300 feet of the top of the seaward face of any coastal bluff; (3) in a sensitive coastal resource area; (4) for counties, not designated as the principal permitted use under the zoning ordinance or zoning district map; and (5) any action on a major public works project or energy facility. This project is appealable because the lot is between the sea and the first public road paralleling the sea.

The grounds for appeal under section 30603 are limited to allegations that the development does not conform to the standards set forth in the certified local coastal program or the public access policies of the Coastal Act. Section 30625(b) of the Coastal Act requires the Commission to conduct a de novo coastal development permit hearing on an appealed project unless a majority of the Commission finds that “no substantial issue” is raised by such allegations. Under section 30604(b), if the Commission conducts a de novo hearing, the Commission must find that the proposed development is in conformity with the certified local coastal program. Section 30604(c) also requires an additional specific finding that the development is in conformity with the public access and recreation policies of Chapter Three of the Coastal Act, if the project is located between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone. This project is located between the nearest public road and the sea and thus, this additional finding must be made in a de novo review in this case.

The only persons qualified to testify before the Commission on the substantial issue question are the applicant, persons who made their views known before the local government (or their representatives), and the local government. Testimony from other persons regarding substantial issue must be submitted in writing. Any person may testify during the de novo stage of an appeal.

IV. STAFF RECOMMENDATION ON SUBSTANTIAL ISSUE AND COASTAL DEVELOPMENT PERMIT

A. STAFF RECOMMENDATION ON SUBSTANTIAL ISSUE:

Staff recommends that the Commission, after public hearing, determine that **a substantial issue exists** with respect to the grounds on which the appeal has been filed, because the City has approved the project in a manner that is inconsistent with the certified Local Coastal Program.

MOTION: *I move that the Commission determine that Appeal No. A-3-PSB-01-097 raises **NO** substantial issue with respect to the grounds on which the appeal has been filed under § 30603 of the Coastal Act.*

STAFF RECOMMENDATION: Staff recommends a **NO** vote. Failure of this motion will result in a de novo hearing on the application, and adoption of the following resolution and findings. Passage of this motion will result in a finding of No Substantial Issue and the local action will become final and effective. The motion passes only by an affirmative vote of the majority of the appointed Commissioners present.

RESOLUTION TO FIND SUBSTANTIAL ISSUE: The Commission hereby finds that Appeal No. A-3-PSB-01-097 presents a substantial issue with respect to the grounds on which the appeal has been filed under § 30603 of the Coastal Act regarding consistency with the Certified Local Coastal Plan and/or the public access and recreation policies of the Coastal Act.

B. STAFF RECOMMENDATION ON COASTAL DEVELOPMENT PERMIT:

Staff recommends that the Commission, after public hearing, **approve** the proposal as conditioned.

MOTION: *I move that the Commission approve Coastal Development Permit Number A-3-PSB-01-097 subject to the conditions below and that the Commission adopt the resolution of Approval with Conditions.*

STAFF RECOMMENDATION: Staff recommends a **YES** vote on the preceding motion. This would result in approval of the project as conditioned. A majority of the Commissioners present is required to pass the motion and adopt the following resolution:

RESOLUTION TO APPROVE THE PERMIT: The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse

effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

V. RECOMMENDED CONDITIONS

A. STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date this permit is voted on by the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

B. SPECIAL CONDITIONS

1. Project Authorized

This permit authorizes the demolition of an existing single family dwelling and the construction of a new single family dwelling consistent with the revised plans required by Special Condition No. 2, below.

2. Revised Plans

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, permittee shall submit to the Executive Director for review and approval two copies of revised plans showing all proposed structures setback a minimum of 40 feet from the bluff edge or the landward extent of the undercut portion of the bluff, whichever is more landward.

3. City Approval

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, permittee shall provide the Executive Director with evidence that the revised plans have been reviewed and approved by the City of Pismo Beach.

4. Effect on City Conditions

This Coastal Commission action has no effect on conditions imposed on the project by the City of Pismo Beach pursuant to an authority other than the California Coastal Act.

5. Assumption of Risk, Waiver of Liability and Indemnity

- A. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from *waves, storm waves, bluff retreat, erosion, and earth movement*; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
- B. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

6. No Future Bluff or Shoreline Protective Device

- A.1 By acceptance of this Permit, the applicant agrees, on behalf of itself (or himself or herself, as applicable) and all successors and assigns, that no bluff or shoreline protective device(s) shall be constructed to protect the development approved pursuant to Coastal Development Permit No. A-3-PSB-01-097 during its projected 100 year life, including, but not limited to, (describe the development, e.g., the residence, foundations, decks, driveways, or the septic system) in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, bluff retreat, landslides, or other natural hazards in the future. By acceptance of this Permit, the applicant hereby waives, on behalf of itself (or himself or herself, as

applicable) and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235.

- A.2 By acceptance of this Permit, the applicant further agrees, on behalf of itself (or himself or herself, as applicable) and all successors and assigns, that the landowner shall remove the development authorized by this Permit, including (describe the development, e.g., the house, garage, foundations, and septic system), if any government agency has ordered that the structures are not to be occupied due to any of the hazards identified above. In the event that portions of the development fall to the beach before they are removed, the landowner shall remove all recoverable debris associated with the development from the beach and ocean and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit.
- B. **PRIOR TO THE ISSUANCE OF COASTAL DEVELOPMENT PERMIT** No. A-3-PSB-01-097, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which reflects the above restrictions on development. The deed restriction shall include a legal description of the applicant's entire parcel(s). The deed restriction shall run with the land binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit."

VI. FINDINGS AND DECLARATIONS

A. LCP BACKGROUND

The City's LCP is composed of two documents, the Land Use Plan and the Zoning Ordinance. The Land Use Plan was comprehensively revised in 1992, Coastal Commission modifications were adopted in May 1993. In 1998, the City submitted to the Commission the first comprehensive Zoning Ordinance revision since certification in 1983. Commission and City staffs were unable to reach a consensus on suggested modifications and thus, the 1983 Zoning Ordinance remains as the standard of review.

B. SUBSTANTIAL ISSUE FINDINGS

Appellants Wan and Nava contend that the City's approval is inconsistent with the geological setback policies of the LCP. Please see Exhibit 2 for the complete text of the appellants' contentions.

Land Use Plan Safety Element Policy S-3 and Section 17.078.050(1) of the Zoning Ordinance each contain bluff top setback standards that apply to this lot.

S-3 Bluff Set-Backs

All structures shall be set back a safe distance from the top of the bluff in order to retain the structures for a minimum of 100 years, and to neither create nor contribute significantly to erosion, geologic instability or destruction of the site or require construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The City shall determine the required setback based on the following criteria:

- a. For development on single family residential lots subdivided prior to January 23, 1981, the minimum bluff setback shall be 25 feet from the top of the bluff (blufftop is defined as the point at which the slope begins to change from near horizontal to more vertical). A geologic investigation may be required at the discretion of the City Engineer, and a greater setback may be applied, as the geologic study would warrant.
- b. For all other development, a geologic study shall be required for any development proposed.

17.078.050 Bluff Hazard, Erosion, and Bluff Retreat Criteria and Standards

1. New structures shall be set back a sufficient distance from the bluff edge to be safe from the threat of bluff erosion for a minimum of 100 years. The City shall determine the required setback based on the following criteria:

- a. For development on single family residential lots subdivided prior to January 23, 1981, the minimum bluff setback shall be 25 feet from the top of the bluff (blufftop is defined as the point at which the slope begins to change from near horizontal to more vertical). A geologic investigation may be required at the discretion of the City Engineer, and a greater setback may be applied if local conditions warrant.

Section 17.078.060(5) of the certified Zoning Ordinance does not permit new development where it is determined that shoreline protection will be necessary within 100 years.

17.078.060 Shoreline Protection Criteria and Standards

5. New development shall not be permitted where it is determined that shoreline protection will be necessary for protection of the new structures now or in the future based on a 100 year geologic projection.

Analysis

The applicant's lot was subdivided prior to January 23, 1981 and so requires a minimum setback of 25 feet, with the possibility of a greater setback based on a geologic investigation. A geologic investigation, which was performed in November 1997 by Gary Mann and Ron Church of Geo Source Incorporated, established a bluff setback based on an average erosion rate of four inches per year (see Exhibit 4 for the entire report).

Based upon field observation, pertinent literature, and other bluff stability studies

in the area, a bluff retreat rate of 6 to 12 inches per year is assumed for the marine terrace deposits, and 4 inches for the shaley beds of the Monterey Formation. It should be noted that the assumed bluff retreat rates are considered an "average," whereas in nature, erosional process (sic) are often episodic and irregular. Short-term (yearly) bluff retreat rates may vary significantly from the long-term average. Due to the predominance of the interbedded opaline siltstone, sandstone, and hard porcelanite of unit Tmp of the Monterey Formation in the tidal zone of the bluff, which are somewhat harder than the more shaley units in the formation, and the anticipated wave run-up height, a bluff setback was established using a retreat rate of four inches per year.

The report concluded that:

The bluff at the site appears to be actively retreating at an average rate of 4 inches per year. This information is based on our review of a San Luis Obispo County Parcel Map of Lot 5, Block 16, Tract Number 57, El Pismo Manor Number 1, dated August, 1950, and from the geologic reconnaissance. Based on a typical 75-year lifespan of use of the residence, and a retreat rate of four inches per year, a 25-foot setback measured from the top-of-bluff, and depth of undercutting landward of the top-of-bluff is required for this property. The top of the marine terrace deposits should be considered as the top-of-bluff for planning purposes at the present time, with a slight additional setback measure from the landward margin of the undercut.

The undercut portion of the bluff lies midway between the side lot lines. The landward margin of the undercut portion of the bluff is about four feet landward of the edge of the bluff. Measuring from that point would result in a setback of 29 feet from the edge of the blufftop for structures located midway between the side lot lines (blufftop erosion based setback of 25 feet plus four feet for depth of undercut portion), while structures nearer the side lot lines would only have to setback 25 feet from the edge of the blufftop. Assuming that the four inches per year erosion rate holds over time, this would protect the structure for a period of 75 years.

A subsequent addendum letter from Geo Source, dated September 29, 1998, (see Exhibit 5) for clarification of the retreat rate and setback distance stated:

The rates measured varied from less than 3 inches to approximately 4 inches per year depending on the materials encountered and the wave action. We selected the more liberal rate of 4-inches per year to reflect the erosional characteristics of the surface Quaternary [Marine] Terrace deposits. However, these Quaternary Terrace deposits are of minor thickness and are covered with vegetation indicating they are stable. In addition, the rate was calculated from the base of the undercut rather than the seaward edge of the top of the bluff. If the rate was recalculated using the seaward edge, the retreat rate would be less than 3-inches per year.

“In conclusion, since the site has only a minor amount (sic) of the higher retreat rate materials and the majority of the bluff is composed of erosion resistant units of the Monterey Formation a bluff retreat rate of 3-inches per year would be a more applicable rate to establish the setback distance.

In its approval of Coastal Development Permit 01-0147, the City relied upon more recent geologic analysis submitted by Earth Systems Pacific in March 2001. See Exhibit 6. The Earth Systems analysis used photogrammetric techniques (aerial photos), to define the bluff edge at various time intervals. Comparing the changes in the bluff edge, Earth Systems was able to estimate the amount of bluff retreat and develop an annual rate of retreat. The applicant has stated that this technique yields a more accurate estimate and that the earlier geological reports did not employ this methodology but rather were based upon field observation and other bluff studies in the area. In contrast to the four to six inches per year estimated in earlier analyses, the consultant's review of aerial photos projected an annual average rate of bluff retreat of 2.5 inches per year.

However, the Earth Systems analysis which led to the downward-revised bluff retreat rate only covered the period from 1955 to 1990 and did not include the most recent decade (1990 to 2000), a period highlighted by strong El Nino pattern winters. The appeal of the City-approved CDP was based, in part, on this omission. In its October 2001 response to the Commission's appeal, Earth Systems consultants stated that the time frame was chosen based upon availability of aerial photos. However, upon request, Earth Systems Pacific was able to supplement its analysis by expanding the scope of its examination to include the recent 10-year timeline (1990 – 2000).

On December 11, 2001, Earth Systems submitted additional analysis comparing the 1990 bluff edge to the 2000 bluff top and surmised that the 2.5 inches per year were still valid for the project site. (Exhibit 7) Staff Geologist, Mark Johnsson, examined the evidence submitted by Earth Systems and reached a somewhat different conclusion: that the bluff was retreating at a rate on the order of 3.6 inches per year. Noting that the property also exhibits a significant cliff undercut and no documented episodic failure of the bluff, staff's geologist concludes that the Earth Systems estimate of 2.5 inches per year should be considered a minimum value. In the following memo, Mr. Johnsson maintains that a bluff retreat rate of 4 inches per year is an appropriate conservative value to establish the bluff setback.

The most recent evidence of bluff retreat comes in the form of a Geology report submitted by Earth Systems Pacific on December 11, 2001. Earth Systems Geologists updated the Historical Bluff Retreat Map to further define the bluff top retreat rate at the project site. The additional analysis is needed to capture bluff retreat rates over the past ten years (1990 – 2000). This time interval includes the strong El Niño winter of 1997-1998, which was marked by high seas and above normal rainfall. The bluff edge was found by the same photogrammetric techniques used for the 1955-1990 analysis, which corrects for photographic distortion and yields precise and accurate determinations. Examining these

results, there was very little evidence of bluff retreat on the southeast portion of the property over this 10-year period. However, the estimated bluff retreat on the southwest corner of the parcel is on the order of 3' over the past 10 years (or about 3.6 inches per year). In this area of the bluff, retreat is attributed to slumping of terrace deposits as opposed to erosion of the bedrock making up the lower part of the sea cliff.

The current bluff configuration is overhanging past vertical on the subject lot. Further, there has been no documented episodic failure of the bedrock part of the bluff between 1955 and 2000. In the event of episodic failure, it is highly probable that greater amounts of retreat will occur. Thus, the bluff retreat rate of 0.5-2 inches per year reported in the 22 March 2001 Earth Systems Pacific Report should be considered a minimum value. Accordingly, a bluff retreat rate of 4 inches per year is an appropriate conservative value.

Based on this information, an erosion rate of 4 inches per year is appropriate. Over a 100-year period, an erosion rate of four inches a year would result in 33 feet of erosion. Thus, the new structure on this site should be setback a minimum of 33 feet from the bluff edge. Because of the undercutting of a portion of the bluff, the setback should be measured from either the top of the bluff or the landward edge of the undercut portion whichever is further landward. Additionally, a 7-foot buffer should be added to the setback requirement to assure that the foundation elements will not actually be undermined at the end of the projected economic life, and to allow for uncertainties in predicting geologic processes into the future, especially in light of rising sea level. The total building setback, then, should be 40 feet.

The Planning Commission required a setback of 25 feet across the entire width of the property. Based on a retreat rate of 2.5 inches per year, a 100-year setback would equal 21 feet. Rather than choosing a more conservative estimate, the Planning Commission ignored historical evidence and based its decision on the most recent bluff retreat rate estimated by Earth Systems in March 2001. The City overlooked a 1992 Earth Systems report, which estimated bluff retreat in the general area of three to four inches per year, reflecting the erosional characteristics of the surface material. However, it is this very surface material that would support the house and through which water, sewer, and gas lines would be placed. Thus, it seems imperative to establish an erosion rate based on this most erosion-prone material.

In addition, as discussed in more detail in the de novo findings below, there is a considerable uncertainty associated with the geological analyses in the vicinity of the project. Previous geologic reports established an overall average erosion rate of four inches per year based on the particular rates of 6 to 12 inches per year for the marine terrace deposits and 4 inches for the shaley beds of the Monterey Formation. The Earth Systems estimates (averages of averages) is not convincing in its attempt to establish a lesser overall estimated erosion rate, and it is not clear why the 4 inch per year rate, already a low estimate according to the original geologic report, should be further reduced. Thus, it is not clear that the "best case" assumption of a 2.5

inches per year erosion rate is appropriate. Moreover, even if this rate were correct, setting the new structure exactly on the projected 100 year erosion line does not necessarily guarantee structural stability for 100 years. Damage to structures typically occurs, and shoreline protection devices are typically approved, well before a bluff edge has retreated right up to a structure. Based on the original geological report and these other considerations, the City's action raises a substantial issue with the certified LCP. Policy S-3 states that the minimum setback for blufftop development is 25 feet but that "a greater setback may be applied as the geologic study would warrant." Section 17.078.050(1) similarly requires a minimum 25 foot setback but that "a greater setback may be applied if local conditions warrant." To be consistent with Policy S-3 and Section 17.078.050(1), the minimum required development setback with a 4 inch per year erosion rate is 33 feet ($100 \text{ years} \times .33 \text{ feet [4 inches]} = 33 \text{ feet}$), rather than 25 feet. The City-approved location of the house 25 feet from the current bluff edge at the estimated erosion rate would give the house only 76 years of protection ($25 \text{ feet} \div .33 = 75.75$). Thus, this action would also allow new development where a geologic projection indicates that shoreline protection may be necessary to protect the development in 76 years. In addition, there is no discussion of or permit condition prohibiting future shoreline protection or otherwise requiring use of non-shoreline structure alternatives for protecting the proposed house from future potential bluff erosion. This is inconsistent with the requirement of Section 17.078.060(5) that no new development be allowed where a geologic projection indicates that shoreline protection will be necessary within 100 years to protect the development.

Therefore, a substantial issue is raised regarding the consistency of the City's approval with LUP Policy S-3 and Zoning Ordinance Sections 17.078.050(1) and 17.078.060(5).

C. FINDINGS FOR DE NOVO HEARING AND APPROVAL OF A REVISED PROJECT

By finding a substantial issue in terms of the project's conformance with the certified LCP, the Commission takes jurisdiction over the CDP for the proposed project. The standard of review for these CDP determinations is the City LCP and the Coastal Act access and recreation policies. The substantial issue findings above, including all citations and analysis, are incorporated directly herein by reference.

1. GEOLOGY AND SETBACK FROM BLUFF

The certified Local Coastal Program (LCP) of the City of Pismo Beach contains specific policies and standards for the purpose of ensuring the safety of structures built on ocean fronting lots. These LCP requirements were adopted in response to the Coastal Act's policies for the protection of the marine environment and policies regarding general development. Coastal Act Section 30235 permits "seawalls. . .when required to. . .protect existing structures. . .in danger from erosion. . . ." Section 30253 requires that new development not "in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs." The City's LCP narrows the requirements of Section 30253 by requiring new structures to be set back a sufficient distance so that they won't be endangered by erosion for a minimum of 100 years.

Geologic studies are critical to the implementation of the LCP geological hazards requirements. In this case, an initial investigation was prepared that established a four inch per year erosion rate, followed by a supplemental letter that adjusted the projected erosion rate to three inches per year. Although an initial professional judgment or recommendation may often be modified if further information becomes available, the history of geologic reports and recommendations regarding erosion rates and bluff setbacks in the Pismo Beach area encourages a cautious approach to acceptance of estimated erosion rates and established setbacks because past recommendations have proven to be overly optimistic in many cases.

For example, in 1983 the Commission approved an addition on the bluff side of the Gustafson house at 107 Indio Drive, 14 lots downcoast from the Zaninovich parcel (4-83-479). That file indicates that the addition would be located within 25 feet of the bluff edge but “would not extend seaward of the existing porch.” Although there is no geological report in the file, correspondence to the applicant states:

We would note that with the recent storms the past few years the bluff retreat in Pismo Beach has exceeded the rates projected by geologists and as a result homes which were constructed utilizing the recommended 25 foot bluff set-back have had to be protected with emergency and permanent seawall and retaining devices.

In 1997 a geology report was prepared by Tom Wooley for a proposed seawall at this same site (Gustafson, A-3-PSB-98-062, denied). That report stated that “[t]he marine bluff below Lot 6 is presently eroding at an estimated rate of 6 to 12 inches per year. This rate will hazard the residence in 20 years or less.” Marine terrace deposits make up the upper part of the bluff at the Gustafson site as at the Zaninovich site. The lower part of the bluff subject to wave attack at the Gustafson site is the Obispo formation while at the Zaninovich site the lower part of the bluff is the Monterey formation, so the erosion rates for the lower part of the bluffs are not directly comparable. The important point, though, is the level of uncertainty regarding erosion rates in the geological reports.

The 1975 geology report by Monte Ray for the Shelter Cove Lodge three miles downcoast from the Zaninovich parcel stated

Based on the investigations and data reviewed to date, it appears that an average rate of cliff erosion. . . would be about 2 inches per year in the resistant bedrock materials. Extending this indicates a period of 60 years would be required for waves to erode 10 feet into the base of the cliff.

The Shelter Cove Lodge was constructed in 1986. Yet in 1998, a mere 12 years later, erosion of a sea cave near the southern end of the property had reached a point where the structures there were becoming endangered and the Commission issued a permit (A-3-PSB-98-097) for the construction of a seawall.

Approximately one mile downcoast from the Zaninovich parcel is the Cliffs Hotel. The erosion

rate estimated at the time of the hotel application in 1983 (4-83-490) was three inches per year. In a 1996 appeal of a City-approved permit for a revetment (A-3-PSB-96-100, denied), the erosion rate was estimated at between 4.5 inches (northern section of bluff) to 13 inches (southern section of bluff). In 1998, a geotechnical report for the Cliffs Hotel estimated erosion at 4 **feet** per year (A-3-PSB-98-049 and 4-83-490-A1).

Finally, approximately two blocks down-coast of the project site at 125 Indio, a recent development permit was issued for the construction of a new single-family residence. The erosion rate estimated at the time of the application in 1997 was 3 inches per year. The City Council is currently evaluating an appeal of a City-approved permit for shoreline protection just four years after construction, in which the revised bluff retreat rate has been accelerated to 24 inches per year. In this case, more than five feet of bluff has been lost and the 100-year setback has been reduced by 20%.

Thus, there are a wide variety of estimated erosion rates and a large inherent uncertainty about “safe” setbacks in geology reports prepared at different times for the same sites along a three mile section of the northern coast of Pismo Beach. Some of the variety may be due to differing geological formations or review of erosion over differing time periods. At the same time, the Commission is increasingly confronting situations where earlier geological studies that established “safe” setbacks, are being substantially revised upwards to support the need for shoreline protection. Some of these changes may be based on new information, or increased experience. Regardless, this experience highlights the considerable uncertainty embedded in these geological studies. In light of this, the Commission does not find the conclusion of the recent Earth Systems analysis, that the erosion rate on the subject site should be reduced from four to 2.5 inches per year, to be convincing. The Commission finds that the setback on this parcel must be based at a minimum on an estimated average retreat rate of four inches per year. This is particularly true in light of the Commission’s own geologic review of the evidence in this case.

As discussed in the Substantial Issue findings above, LUP policy S-3 and IP ordinance 17.078.050 require that new development be setback a safe distance from the bluff edge to ensure the integrity of the development for a period of 100 years. Staff’s geologist Mark Johnsson, determined that 4 inches per year was an appropriate erosion rate to allow for historic slumping of terrace materials and account for future episodic failure of the bedrock. Based on an average annual rate of retreat of 4 inches per year, over a 100-year period, cumulative bluff retreat would result in 33 feet of erosion. Thus, development on this site should be set back a minimum of 33 feet from the bluff edge. Furthermore, because of undercutting on portion of the bluff, the 33 foot setback should be measured from the landward edge of the undercut portion; otherwise the setback would be less than the projected amount of erosion over a 100 year period. The City-approved project is setback only 25 feet from the upper bluff. At an average rate of retreat of 4 inches per year ($4 / 12 = .33$), the development will be undermined within 75 years ($25 / .33 = 75$). This is inconsistent with LUP and IP policies (S-3 and 17.078.050) requiring that bluff setbacks be adequate to ensure structural integrity for a period of 100 years.

Even the minimum setback of 33 feet, though, is also probably not enough to ensure the safety

of a new house on this site for 100 years worth of erosion, as required by the LCP. The house will become endangered by erosion well before 100 years have passed (or the equivalent amount of erosion has occurred). This is because by the time 100 years of erosion has occurred, the seaward edge of the house will be at the bluff edge. Almost assuredly damage to the house would have already occurred (e.g., cracking of foundation and skewing of the frame resulting in breakage of water, sewer, and gas pipes, and inability to open and close doors and windows) and/or the Building Official would have "red-tagged" the house indicating its uninhabitable status due to the damage and/or because of the danger of parts or all of it falling to the beach. Thus it is necessary to set back the house a somewhat greater distance than the 33 feet projected by the geological information in order to ensure its safety for 100 years. In the Substantial Issue finding above, staff geologist, Mark Johnsson, recommends that a minimum buffer distance of 7 feet be established to "assure that the foundation elements will not actually be undermined at the end of the projected economic life, and to allow for uncertainties in predicting geologic processes into the future, especially in light of rising sea level."

At present, the existing house is no more than 10 feet back from the bluff edge and apparently has as yet suffered no damage. Thus, seven feet is probably a reasonable buffer amount to set back from the 100-year setback, to truly allow for 100 years worth of erosion that does not endanger the structure. Therefore, this permit is conditioned to require a seven foot buffer to be added to the 33 foot bluff edge/bluff undercut setback in order to ensure that after 100 years worth of erosion, a new structure on this lot will still be safe from erosion.

Finally, Section 17.078.060(5) states:

New development shall not be permitted where it is determined that shoreline protection will be necessary for protection of the new structures now or in the future based on a 100 year geologic projection.

The purpose of this section is to insure that new development will not require the installation of shoreline protection for the its economic life (in this case assumed to be 100 years) and, more broadly, to effectuate the Coastal Act section 30253 policy goal of avoiding shoreline protection construction for new development. Given the inherent geologic uncertainty as well as significant risks associated with blufftop development, further assurance that no future shoreline protection will be required on this site is needed to meet the requirement of section 17.078.060(5). The subject lot is one of 33 blufftop lots along Indio Drive in Pismo Beach. At least six of these lots have seawalls, generally south of this project, and at least two were approved by the Commission (see Hudson, A-3-PSB-93-070; Conroy, A-3-PSB-97-015). The Commission recently denied a seawall proposed for Gustafson (A-3-PSB-98-062). There are no seawalls on the parcels adjacent to the subject lot. Thus, although the shoreline in this area is generally retreating, it is not a case where the majority of the developed coast is already armored, such as portions of the City of Capitola or the Live Oak section of Santa Cruz County. Rather, existing seawalls are limited and far between. In contrast to areas where armoring is extensive, and completion or filling of gaps of existing shoreline protective works could possibly make sense under certain circumstances (e.g., to mitigate erosional end effects), a compelling need for a future seawall at this location is not foreseeable for the life of the project if it is setback

appropriately. In light of this fact, and the need to assure structural stability without future shoreline protection, this permit is conditioned to require the applicant to record a deed restriction that (1) addresses the assumption of risk from hazards associated with waves and erosion and that (2) prohibits construction of any shoreline protective device(s) for the purpose of protecting the development authorized by this permit for a period of 100 years. Therefore, the Commission finds that the project, as conditioned, is consistent with the City of Pismo Beach certified Local Coastal Program.

2. ACCESS

Coastal Act Section 30212 states that

- (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:
 - (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,

LUP Policy PR-22 states that

For all developments on parcels located along the shoreline, a lateral public access easement in perpetuity extending from the oceanside parcel boundary to the top of the bluff shall be required for the purpose of allowing public use and enjoyment of dry sandy and rocky beaches, intertidal and subtidal areas.

The City's staff report includes a prior to issuance condition (A10) requiring the applicant to record an offer to dedicate lateral public access easement extending from the ocean-side parcel boundary to the top of the bluff in accordance with LUP policy PR-22. Notwithstanding the City's LCP access requirement, lateral access was dedicated to the County of San Luis Obispo in the 1950's when the area was subdivided, as indicated on the Assessor's Parcel Maps for the area. The area of dedication includes the mean high tide to the toe of the bluff. Therefore, the City's action relative to public access is consistent with LUP Policy PR-22 and Coastal Act Section 30212.

VII. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effects which the activity may have on the environment. The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary for Resources as being the functional equivalent of environmental review under CEQA. The findings, incorporated by reference herein have discussed the relevant coastal resource issues with the proposal and has recommended appropriate mitigation to address adverse impacts to said resources. Accordingly,

the project is being approved subject to conditions which implement the mitigating actions required of the Applicant by the Commission (see Special Conditions). Any public comments regarding this project have been addressed in these findings. As such, the Commission finds that only as modified and conditioned by this permit will the proposed project not have any significant adverse effects on the environment within the meaning of CEQA.